



# The Mobile Intel® Pentium® 4 Processor - M and Microsoft Windows\* XP Professional



## Product Brief

## The New Platform for Business Computing

The Mobile Intel® Pentium® 4 Processor - M and Microsoft Windows\* XP Professional provide businesses with:

- **Outstanding performance for multitasking in mobile environments**
- **Lower power consumption and wireless networking support for an enhanced mobile experience**
- **Greater support for emerging technologies to enable increased levels of productivity**
- **Exceptional reliability and manageability to lower total cost of mobile PC ownership**

Talk about a one-two punch. The Mobile Intel® Pentium® 4 Processor - M delivers breakthrough performance for today's multitasking environments and tomorrow's newest technologies. Microsoft Windows\* XP Professional offers advanced features tailored to the demands of a fast-paced, interconnected business world. Together, they're a knockout combination that can make your mobile PCs more powerful, your employees more productive, your infrastructure more robust — as well as help your company become more profitable. And, with Windows XP Professional features optimized for the Mobile Intel Pentium 4 Processor - M, your business gets more out of this powerful computing platform than ever before.

## Muscle for a Multitasking Environment

Face it. Business is more deadline-driven than ever. Information bombards us from all sides. To keep up, employees jump amongst numerous applications, each more compute-intensive than the last.

Windows XP Professional's new Preemptive Multitasking Environment is designed for the growing trend in multitasking, improving system response times and stability while running multiple applications simultaneously. In addition, Windows XP Professional runs a wide range of manageability and security features as transparent "background computing", such as its Encrypting File System (EFS) support and System Restore.

With clock speeds of 1.80 GHz and rising, the Mobile Intel Pentium 4 Processor - M delivers the high-performance necessary for multitasking. A new and ultra-sophisticated Rapid Execution Engine, Hyper-pipelined Technologies and a 400 MHz Processor System Bus — triple the speed of the Mobile Intel® Pentium® III Processor - M's bus — keep the system highly responsive even when running multiple foreground and background tasks. This advanced architecture produces measurable improvements in user productivity. And by providing the performance needed for background processing such as compression, encryption, and virus scanning, it helps the entire infrastructure run more efficiently and securely.



## Features to Maximize Mobility

Today's mobile PCs are enabling employees to work more effectively across a variety of business environments. With the advantages of more efficient communication, seamless collaboration, easier content access, and more rapid customer response times, corporations equipped with notebooks are realizing significant quantitative and qualitative benefits. Furthermore, adding wireless connectivity to the package allows users to gain added productivity and flexibility as they enjoy the freedom of being untethered — from both network cables as well as power cords.

Windows XP Professional's improved power management features allow mobile PC users on battery power to work for longer periods of time, as well as to more accurately forecast how long their notebooks will run. The Hibernate and Standby functions allow systems to resume activity faster and conserve critical battery life when not needed. Advanced Configuration and Power Interface provide Plug and Play, hot docking and full-power management support for easier movement between docked and undocked configurations.

The Mobile Intel Pentium 4 Processor - M incorporates specific mobile CPU features that complement Windows XP to better optimize application performance and power consumption. Enhanced Intel® SpeedStep™ Technology helps to extend battery life via real-time switching of voltage and frequency between maximum performance and battery-optimized operation, based on CPU demand. Deeper Sleep Alert State, a new dynamic power management mode, adjusts voltage during brief periods of inactivity — including micro seconds between keystrokes — for longer battery life.

Whether wired or wireless, the Mobile Intel Pentium 4 Processor - M provides the battery life and performance you need for demanding connectivity and security applications. Windows XP offers Zero Configuration and Network Location Awareness for easier networking access while mobile. Additionally,

its Wireless Networking Support and Internet Connection Firewall both work to secure access as well as to provide performance improvements for your wireless connections — further enhancing your online experience, in addition to supporting 802.1x wireless security standards.

## Support for Emerging Technologies

Extensible Markup Language (XML), peer-to-peer computing, knowledge management, rich visual collaboration tools — they're just a few of the many emerging technologies and usage models that are generating a wealth of new services and capabilities for today's mobile PC users.

Windows XP Professional takes full advantage of these technologies by building support directly into the software. XML-based Web services such as Remote Assistance and the Web Publishing Wizard enhance user productivity and business effectiveness even while on the road. Windows Media Player\* makes it easier to incorporate digital media into business activities, and Windows XP Professional's intrinsic support for peer-to-peer networking gives businesses greater flexibility in adapting this model.

While these technologies dramatically boost user and company productivity, they also intensify the computing workload. Based on 0.13 micron process technology and Intel® NetBurst™ Microarchitecture, the Mobile Intel Pentium 4 Processor - M delivers optimum performance to accommodate increasingly processor-intensive applications and expanding workload on the notebook platform. Furthermore, 512 KB On-die L2 Cache stores more instructions and data in on-chip memory for quicker access and faster response time. And due to 144 Streaming SIMD Extensions 2, software developers have additional capabilities for accelerating video, multimedia, and 3D imaging. With these innovations, mobile users can now employ new Web-based services and capabilities, as well as rich visual applications, to look, sound and perform their best.

## Technology Advancements for a Robust Environment

What's worse than a blue screen when you're facing a tough deadline? Windows XP Professional extends the Windows\* 2000 OS's already high reliability with components ranging from improved file protection to a new Windows Installer. These new features work together to deliver a dependable computing experience — minimizing user reboots, reducing deployment headaches and enhancing the enterprise's security and manageability.

The Mobile Intel Pentium 4 Processor - M provides superb reliability founded on Intel's standard-setting expertise in chip design, development, manufacturing, validation and testing. In the year 2000 alone, Intel spent more than \$200 million on validation testing, and had over 900 employees involved in compatibility and reliability testing. Mobile platforms receive additional tests to ensure that all hardware, software, OS and business applications work smoothly with the specialized mobile features — undergoing approximately 26,000 hours of incremental testing and validation activities. Intel also works with major PC manufacturers to offer transition guidance that helps businesses plan for easy, cost-effective technology transitions.

Together, Windows XP Professional and the Mobile Intel Pentium 4 Processor - M are designed to enhance the productivity of mobile PC business users and IT staff alike with powerful technologies that can give your company a competitive edge.

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### Why Choose the Mobile Intel® Pentium® 4 Processor - M and Microsoft Windows\* XP Professional for Your Company's Mobile Computing Needs?

- Powerful hardware and software architectures deliver an ultra-responsive mobile user experience, even with heavy multitasking.
- Windows XP Professional and Mobile Intel Pentium 4 Processor - M offer a multitude of power management and wireless support features to enable a more productive, more efficient mobile computing experience.
- With outstanding performance plus built-in software support, you're primed to make the most of Extensible Markup Language (XML), Web services, peer-to-peer collaboration, visual computing, and other emerging technologies.
- Windows XP Professional, coupled with the Mobile Intel Pentium 4 Processor - M, provides specific optimizations to give an added boost to 3D rendering, wireless security and networking.
- Intel's renowned reliability plus Windows XP Professional's dependability enhancements create a rock-solid foundation for business computing, driving decreased costs of ownership.

## The Mobile Intel® Pentium® 4 Processor - M and Microsoft Windows® XP Professional Operating System

	Windows XP Professional Provides...	Mobile Intel Pentium 4 Processor - M Delivers...	So Your Business Can...
Multitasking	<ul style="list-style-type: none"> <li>• Preemptive multitasking architecture</li> </ul>	<ul style="list-style-type: none"> <li>• Performance to keep systems responsive even when users run several demanding applications simultaneously</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance employee productivity</li> <li>• Maximize system longevity</li> </ul>
	<ul style="list-style-type: none"> <li>• Encrypting File System (EFS), IPsec Public Key Infrastructure (PKI) and Kerberos support</li> </ul>	<ul style="list-style-type: none"> <li>• Special instructions to speed 128-bit integer operations typically used in encryption, authentication and other security-related capabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Protect corporate data and resources</li> <li>• Reduce the risk of data theft</li> <li>• Run background security tasks on the desktop without affecting user productivity</li> </ul>
Mobility	<ul style="list-style-type: none"> <li>• Standby and Hibernate power management modes</li> <li>• Hot Docking and Advanced Configuration and Power Interface (ACPI) features</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced Intel® SpeedStep™ Technology and Deeper Sleep Alert State to help optimize application performance and power usage to deliver extended battery life</li> </ul>	<ul style="list-style-type: none"> <li>• Improve employee productivity while out of the office and on the road</li> <li>• Dramatically reduce reboot and resume times to minimize unnecessary downtime</li> <li>• Provide flexibility and freedom of movement between locations</li> </ul>
	<ul style="list-style-type: none"> <li>• Wireless Networking Support, Network Location Awareness, and easier Remote Access Configuration Wizards</li> <li>• "Zero Configuration" for automatic wireless network connection</li> <li>• Offline Files/Folders and Synchronization Manager and Offline Viewing</li> </ul>	<ul style="list-style-type: none"> <li>• Delivers battery life necessary for an optimal wireless experience</li> <li>• Provides performance required by evolving wireless security applications, such as encryption, virus scanning, and Virtual Private Networks (VPN)</li> </ul>	<ul style="list-style-type: none"> <li>• Move seamlessly between wired and wireless networks, whether at work, home, or public wireless "hot spots"</li> <li>• Take work and content offline for continuous productivity, even while not connected to the network</li> </ul>
Emerging Technologies	<ul style="list-style-type: none"> <li>• Peer-to-peer networking support</li> </ul>	<ul style="list-style-type: none"> <li>• Power to host applications and files efficiently without draining system responsiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Make better use of enterprise-wide computing resources</li> </ul>
	<ul style="list-style-type: none"> <li>• Web services and .NET services based on native XML and SOAP support</li> </ul>	<ul style="list-style-type: none"> <li>• Superb performance at parsing XML statements</li> <li>• Power to run Web services along with other user tasks</li> </ul>	<ul style="list-style-type: none"> <li>• Realize outstanding performance productivity for capabilities such as Remote Assistance, Windows Messenger, and the Web Publishing Wizard</li> </ul>
Robust Environment	<ul style="list-style-type: none"> <li>• Comprehensive digital media activities under a single, easy-to-use umbrella – Windows Media Player* 8</li> <li>• 3D graphics optimized for Mobile Intel Pentium 4 Processor - M</li> <li>• Windows Messenger* for advanced collaboration with real-time audio- and video-conferencing, application sharing and text-based chat</li> </ul>	<ul style="list-style-type: none"> <li>• Powerful Intel® NetBurst™ Microarchitecture and expanded Streaming SIMD Extensions 2 (SSE2) instructions deliver breakthrough performance for digital media speed and quality</li> <li>• Performance to enhance video and audio decoding and other visually rich software</li> </ul>	<ul style="list-style-type: none"> <li>• Enjoy high-quality audio and video experiences</li> <li>• Benefit from improved decision making with business analysis and visualization tools</li> <li>• Use digital media to communicate effectively, train employees, improve customer service and more</li> <li>• Collaborate more effectively with supply chain partners, customers</li> </ul>
	<ul style="list-style-type: none"> <li>• Reliability features such as improved code correction, Windows file protection and reduced reboot scenarios</li> </ul>	<ul style="list-style-type: none"> <li>• State-of-the-art design, manufacturing and test facilities for outstanding system availability and lower support costs</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid disruptions and improve user experience</li> </ul>
Robust Environment	<ul style="list-style-type: none"> <li>• Manageability enhancements like Remote Desktop, System Restore and Recovery Console</li> </ul>	<ul style="list-style-type: none"> <li>• Power to run management tools in the background while maintaining performance on users' foreground applications</li> <li>• Built-in support for industry-standard manageability features such as ACPI, LAN-based remote wake-up and preboot execution environment (PXE)</li> </ul>	<ul style="list-style-type: none"> <li>• Improve manageability</li> <li>• Minimize downtime and boost productivity</li> <li>• Reduce total costs of ownership (TCO)</li> </ul>
	<ul style="list-style-type: none"> <li>• Enhanced device driver verifier and Windows Installer</li> </ul>	<ul style="list-style-type: none"> <li>• Robust drivers and other platform elements optimized for compatibility and stability</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce support costs by qualifying and deploying new client systems more efficiently and minimizing disruptive transitions</li> </ul>

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